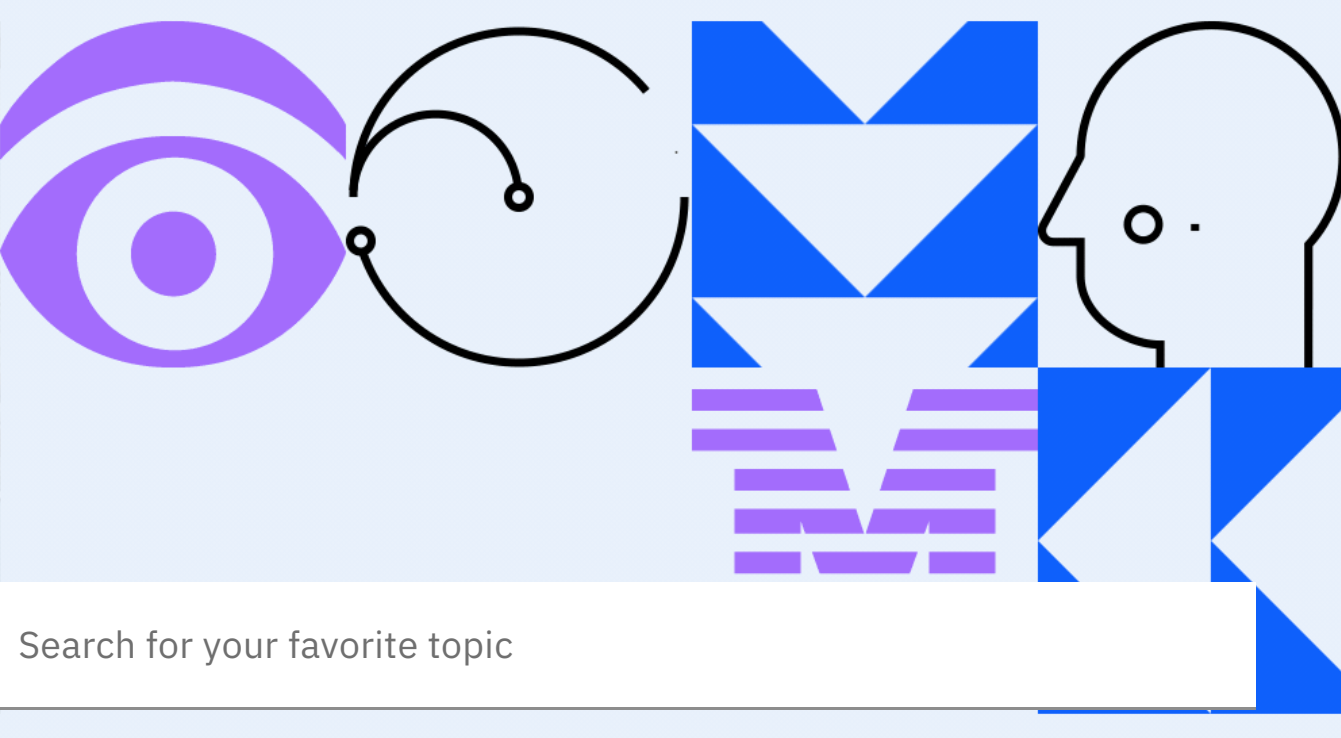
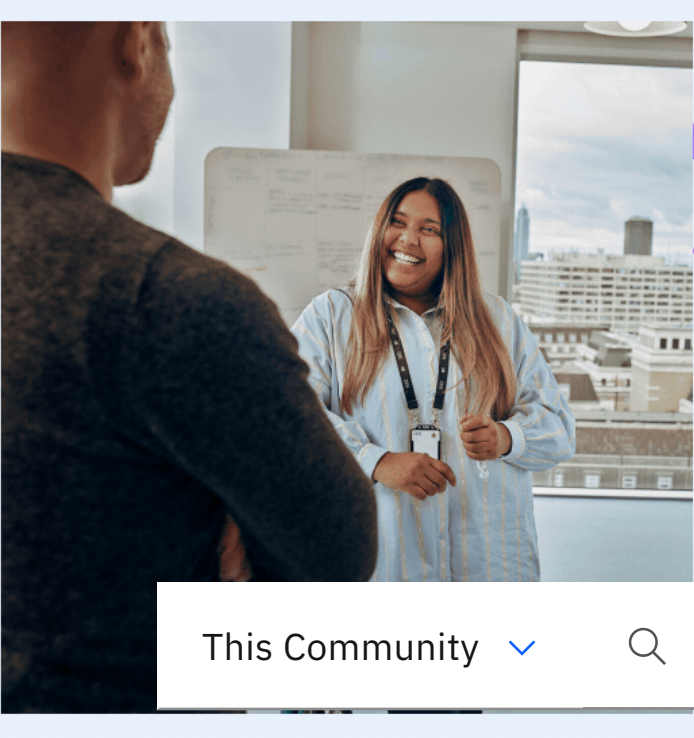


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Telco customer churn (11.1.3+)



By Samples Team posted Thu July 11, 2019 08:15 AM

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In IBM Cognos Analytics 11.1.1.3, the data module that is named *Telco Customer Churn* in the [Base Samples](#) was enhanced to provide a wider narrative.

The *Telco customer churn* data contains information about a fictional telco company that provided home phone and Internet services to 7043 customers in California in Q3. It indicates which customers have left, stayed, or signed up for their service. Multiple important demographics are included for each customer, as well as a Satisfaction Score, Churn Score, and Customer Lifetime Value (CLTV) index.

Inventory of Telco Assets

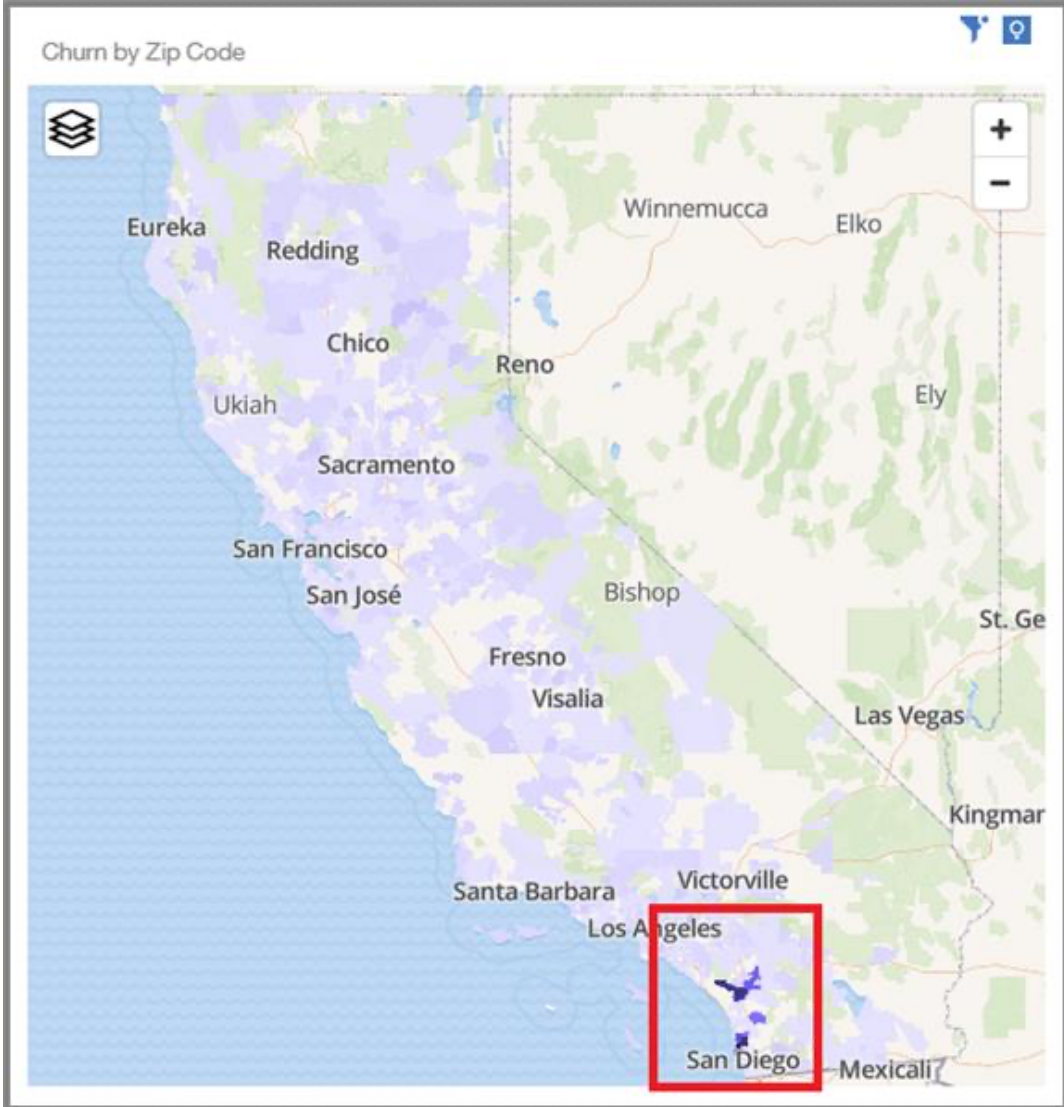
A variety of objects have been updated/created that work together to tell a comprehensive story:

- Telco churn:** This sample dashboard tracks a fictional telco company's customer churn based on a variety of factors. The Churn Label column indicates whether or not the customer left within the last month. Other columns include location, monthly charges, services, and customer lifetime value. Location: *Team content > Samples > Dashboards*.
- Quarterly churn update:** This sample story shows quarterly changes of customer churn in a fictional telco company, and which contract and location has the highest churn in order to decide the goals for the next quarter. The churn label column indicates whether or not the customer left within the last quarter. Location: *Team content > Samples > Stories*.
- Customer churn information by zip code:** This sample report is the drill-through target report for sample dashboard 'Telco churn' and sample story 'Quarterly churn update'. Location: *Team content > Samples > Reports*.
- Telco churn relationships:** This sample exploration tracks a fictional telco company's customer churn based on a variety of factors. The Churn Label column indicates whether or not the customer left within the last month. Other columns include location, monthly charges, services, and customer lifetime value. Location: *Team content > Samples > Explorations*.
- Telco customer churn:** This sample data module tracks a fictional telco company's customer churn based on a variety of possible factors. The churn column indicates whether or not the customer left within the last month. Other columns include gender, dependents, monthly charges, and many with information about the types of services each customer has. Source: IBM. Location: *Team content > Samples > Data*. The *Telco customer churn* data module is composed of 5 uploaded files:
 - Telco_customer_churn_demographics.xlsx
 - Telco_customer_churn_location.xlsx
 - Telco_customer_churn_population.xlsx
 - Telco_customer_churn_services.xlsx
 - Telco_customer_churn_status.xlsx

Interesting Scenarios

Scenario 1

In the *Telco churn* dashboard, we can see that there are ten Zip Codes that clearly present the highest churn. All these Zip Codes are clustered in southern California in the San Diego area:



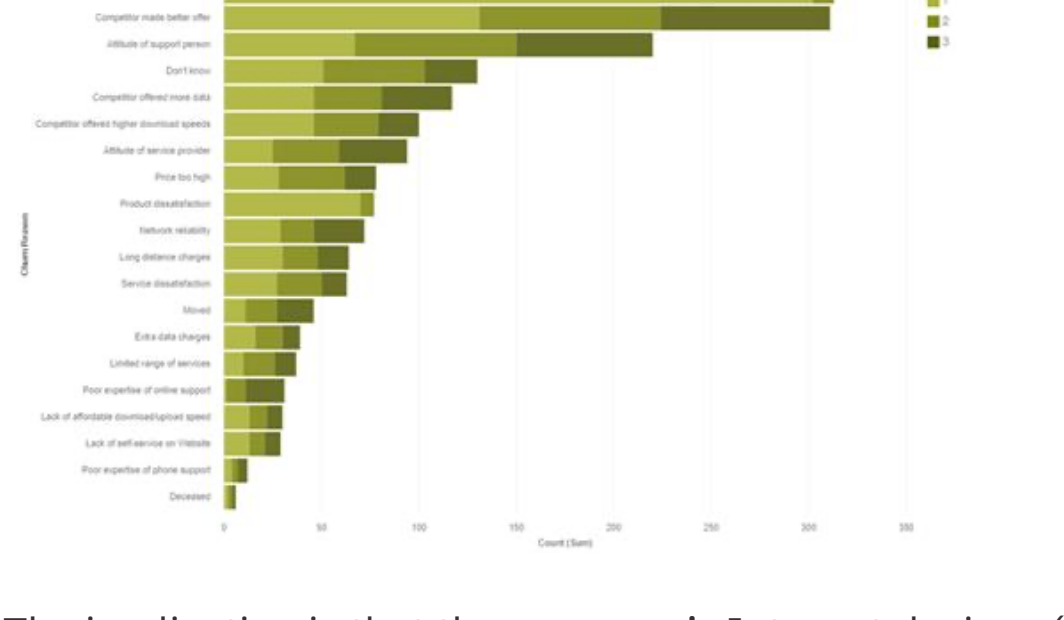
In the story named *Quarterly churn update*, we can see that most of these customers gave a Churn Reason of "Competitor made better offer":

Zip Code	Count
92122	33
92117	30
92126	28
92028	26
92109	24
92130	20
92592	18
92121	17
92027	15
92129	15

The implication is that a new competitor has moved in to the area and has stolen customers from the company.

Scenario 2

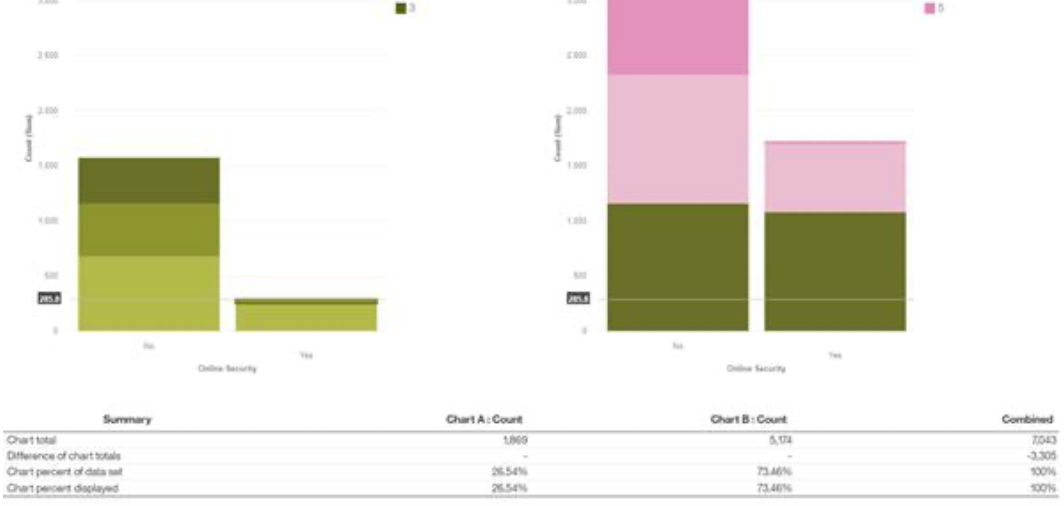
Of the customers that left, their Satisfaction Scores are all 1 or 2 for *Churn Reason = Competitor had better devices* and *Product dissatisfaction*:



The implication is that the company's Internet devices (e.g. modems) are problematic.

Scenario 3

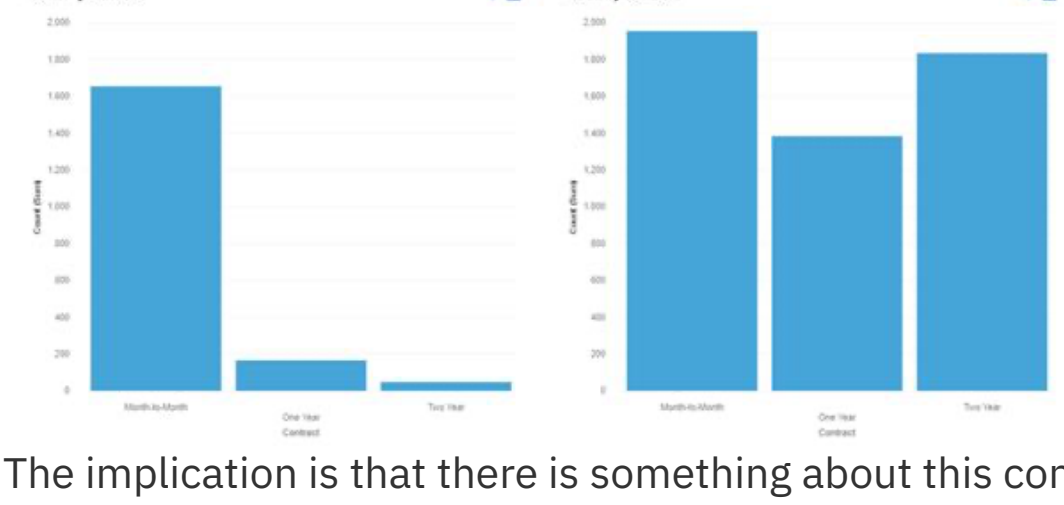
Satisfaction Scores are low, ranging from 1-3, for customers that churned with *Online Security=Yes*:



The implication is that they disliked the company's online security product or options:

Scenario 4

There is a trend that customers who churned were more likely to be on a Month-to-Month contract:



The implication is that there is something about this contract type that is correlated with churn. Maybe it is easier to break a Month-to-Month contract?

Data

Once the [Base Samples](#) are installed, if you navigate to *Team Content > Samples > Data*, you will see a data module that is named *Telco customer churn*. It contains 5 tables:

- Demographics
- Location
- Population
- Services
- Status

Each table is described below.

Demographics

CustomerID: A unique ID that identifies each customer.

Count: A value used in reporting/dashboarding to sum up the number of customers in a filtered set.

Gender: The customer's gender: Male, Female

Age: The customer's current age, in years, at the time the fiscal quarter ended.

Senior Citizen: Indicates if the customer is 65 or older: Yes, No

Married: Indicates if the customer is married: Yes, No

Dependents: Indicates if the customer lives with any dependents: Yes, No. Dependents could be children, parents, grandparents, etc.

Number of Dependents: Indicates the number of dependents that live with the customer.

Location

CustomerID: A unique ID that identifies each customer.

Count: A value used in reporting/dashboarding to sum up the number of customers in a filtered set.

Country: The country of the customer's primary residence.

State: The state of the customer's primary residence.

City: The city of the customer's primary residence.

Zip Code: The zip code of the customer's primary residence.

Lat Long: The combined latitude and longitude of the customer's primary residence.

Latitude: The latitude of the customer's primary residence.

Longitude: The longitude of the customer's primary residence.

Population

ID: A unique ID that identifies each row.

Zip Code: The zip code of the customer's primary residence.

Population: A current population estimate for the entire Zip Code area.

Services

CustomerID: A unique ID that identifies each customer.

Count: A value used in reporting/dashboarding to sum up the number of customers in a filtered set.

Quarter: The fiscal quarter that the data has been derived from (e.g. Q3).

Referred a Friend: Indicates if the customer has ever referred a friend or family member to this company: Yes, No

Number of Referrals: Indicates the number of referrals to date that the customer has made.

Tenure in Months: Indicates the total amount of months that the customer has been with the company by the end of the quarter specified above.

Offer: Identifies the last marketing offer that the customer accepted, if applicable. Values include None, Offer A, Offer B, Offer C, Offer D, and Offer E.

Phone Service: Indicates if the customer subscribes to home phone service with the company: Yes, No

Avg Monthly Long Distance Charges: Indicates the customer's average long distance charges, calculated to the end of the quarter specified above.

Multiple Lines: Indicates if the customer subscribes to multiple telephone lines with the company: Yes, No

Internet Service: Indicates if the customer subscribes to Internet service with the company: No, DSL, Fiber Optic, Cable.

Avg Monthly GB Download: Indicates the customer's average download volume in gigabytes, calculated to the end of the quarter specified above.

Online Security: Indicates if the customer subscribes to an additional online security service provided by the company: Yes, No

Online Backup: Indicates if the customer subscribes to an additional online backup service provided by the company: Yes, No

Device Protection Plan: Indicates if the customer subscribes to an additional device protection plan for their Internet equipment provided by the company: Yes, No

Premium Tech Support: Indicates if the customer subscribes to an additional technical support plan from the third party with reduced wait times: Yes, No

Streaming TV: Indicates if the customer uses their Internet service to stream television programming from a third party provider: Yes, No. The company does not charge an additional fee for this service.

Streaming Movies: Indicates if the customer uses their Internet service to stream movies from a third party provider: Yes, No. The company does not charge an additional fee for this service.

Streaming Music: Indicates if the customer uses their Internet service to stream music from a third party provider: Yes, No. The company does not charge an additional fee for this service.

Unlimited Data: Indicates if the customer has paid an additional monthly fee to have unlimited data downloads/uploads: Yes, No

Contract: Indicates the customer's current contract type: Month-to-Month, One Year, Two Year.

Paperless Billing: Indicates if the customer has chosen paperless billing: Yes, No

Payment Method: Indicates how the customer pays their bill: Bank Withdrawal, Credit Card, Mailed Check

Monthly Charge: Indicates the customer's current total monthly charge for all their services from the company.

Total Charges: Indicates the customer's total charges, calculated to the end of the quarter specified above.

Total Refunds: Indicates the customer's total refunds, calculated to the end of the quarter specified above.

Total Extra Data Charges: Indicates the customer's total charges for extra data downloads above those specified in their plan, by the end of the quarter specified above.

Total Long Distance Charges: Indicates the customer's total charges for long distance above those specified in their plan, by the end of the quarter specified above.

Status

CustomerID: A unique ID that identifies each customer.

Count: A value used in reporting/dashboarding to sum up the number of customers in a filtered set.

Quarter: The fiscal quarter that the data has been derived from (e.g. Q3).

Satisfaction Score: A customer's overall satisfaction rating of the company from 1 (Very Unsatisfied) to 5 (Very Satisfied).

Satisfaction Score Label: Indicates the text version of the score (1-5) as a text string.

Customer Status: Indicates the status of the customer at the end of the quarter: Churned, Stayed, or Joined

Churn Label: Yes = the customer left the company this quarter. No = the customer remained with the company. Directly related to Churn Value.

Churn Value: 1 = the customer left the company this quarter. 0 = the customer remained with the company. Directly related to Churn Label.

Churn Score: A value from 0-100 that is calculated using the predictive tool IBM SPSS Modeler. The model incorporates multiple factors known to cause churn. The higher the score, the more likely the customer will churn.

Churn Score Category: A calculation that assigns a Churn Score to one of the following categories: 0-10, 11-20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, and 91-100

CLTV: Customer Lifetime Value. A predicted CLTV is calculated using corporate formulas and existing data. The higher the value, the more valuable the customer. High value customers should be monitored for churn.

CLTV Category: A calculation that assigns a CLTV value to one of the following categories: 2000-2500, 2501-3000, 3001-3500, 3501-4000, 4001-4500, 4501-5000, 5001-5500, 5501-6000, 6001-6500, and 6501-7000.

Churn Category: A high-level category for the customer's reason for churning: Attitude, Competitor, Dissatisfaction, Other, Price. When they leave the company, all customers are asked about their reasons for leaving. Directly related to Churn Reason.

Churn Reason: A customer's specific reason for leaving the company. Directly related to Churn Category.

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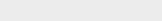
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